

REMARKS

It is respectfully submitted that the present response presents no new issues or new matter and places this case in condition for allowance. Reconsideration of the application in view of the following remarks is requested.

I. Status

Applicants acknowledge with appreciation that the Examiner has entered the request for continued examination filed on 1/18/2011. Claims 1-5, 9 and 16 have been considered.

II. The Rejection of Claims 1-5, 9 and 16 under 35 U.S.C. 103

Claims 1-5, 9 and 16 stand rejected under 35 U.S.C. 103 as being unpatentable over Dutron et al., WO 2004/023879 ("R1") in view of JP 2001-245665, Polypeptide ID AAM51802 ("R2"). The Examiner reiterates that R1 discloses the incorporation of xylanases into dough to improve the baking properties of the baked product, and states that a preferred xylanase is the xylanase of *B. halodurans* C-125. The Examiner cites R2 as disclosing the results of a comparison of amino acids 1-182 of SEQ ID NO: 2 with other sources of xylanases, and disclosing that the claimed SEQ ID NO: 2 matches *B. halodurans* C-125 at 100%. The Examiner alleges that it would have been obvious to one of ordinary skill in the art to add xylanase of *B. halodurans* to dough and bakery products to improve their properties. The Examiner states that Applicants' prior arguments have been considered but are not persuasive. This rejection is respectfully traversed.

Obviousness is a question of law based on underlying findings of fact. An analysis of obviousness must be based on several factual inquiries: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3) the level of ordinary skill in the art at the time the invention was made; and (4) objective evidence of nonobviousness, if any. *Graham v. John Deere Co.*, 148 USPQ 459, 467 (1966). The teachings of a prior art reference are underlying factual questions in the obviousness inquiry. *Para-Ordnance Mfg., Inc. v. SGS Imp. Int'l, Inc.*, 37 USPQ2d 1237, 1240 (Fed. Cir. 1995). "[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR Int'l Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1396 quoting *In re Kahn*, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

While the Examiner alleges that it would be obvious to add *B. halodurans* C-125 xylanase generally to dough and bakery products, the Examiner has provided no articulated reasoning with some rational underpinning as to why it would have allegedly been obvious to one of ordinary skill in the art to do so with the particular xylanase according to Applicants' claims, i.e., a polypeptide

having at least 90 % identity to the amino acid sequence as shown in positions 1-182 of SEQ ID NO: 2. As previously noted, the xylanase identified in R1 has low sequence identity of only approximately 8% to the xylanase of Applicants' claims. Accordingly, the Examiner has not met his burden in establishing a *prima facie* case of obviousness.

Nevertheless, even assuming arguendo that the Examiner has established a *prima facie* case of obviousness (which Applicants do not concede to be the case), Applicants submit that the specification as filed demonstrates an improvement of the claimed invention over the prior art. In particular, the specification as filed demonstrates the positive effect of adding a xylanase according to the invention, i.e., a polypeptide having at least 90 % identity to the amino acid sequence as shown in positions 1-182 of SEQ ID NO: 2, in a process for preparing a dough-based product. In particular, Example 2 demonstrates the effect of xylanase according to the present invention on freshness of bread. Bread was baked according to the sponge and dough method. Firmness and elasticity of the loaves was measured as described. The data show that the xylanase of the invention has a significant effect on firmness in combination with Novamyl, an exemplary maltogenic alpha-amylase. Elasticity is only slightly reduced. Moreover, the mobility of free water was determined as described. The amount of free water has been described in literature to correlate to moistness of bread crumb. The data show that the xylanase according to the invention is able to improve moistness measured by NMR when dosed on top of Novamyl. Further, the ranking from the small sensory evaluation of softness and moistness on day 21 showed that bread crumb made with the xylanase of the invention together with Novamyl was perceived as more moist than bread made with Novamyl alone. See generally, Example 2, especially page 6, line 19 to page 7, line 17. These results are neither disclosed nor suggested in R1, alone or in view of R2.

For the foregoing reasons, Applicants submit that the claims overcome this rejection under 35 U.S.C. 103. Applicants respectfully request reconsideration and withdrawal of the rejection.

III. Conclusion

In view of the above, it is respectfully submitted that all claims are in condition for allowance. Early action to that end is respectfully requested. The Examiner is hereby invited to contact the undersigned by telephone if there are any questions concerning this amendment or application.

All required fees were charged to Novozymes North America, Inc.'s Deposit Account No. 50-1701 at the time of electronic filing. The USPTO is authorized to charge this Deposit Account should any additional fees be due.

Respectfully submitted,

Date: August 2, 2011

/Kristin McNamara, Reg. # 47692/
Kristin J. McNamara, Reg. No. 47,692
Novozymes North America, Inc.
500 Fifth Avenue, Suite 1600
New York, NY 10110
(919) 494-3903